UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,942	09/11/2003	Jeremy N. Shapiro	SUN03-0004	5071

57960 7590 10/11/2007

SUN MICROSYSTEMS INC.
C/O PARK, VAUGHAN & FLEMING LLP
2820 FIFTH STREET
DAVIS, CA 95618-7759

EXAMINER	
DAILEY, THOMAS J	

ART UNIT	PAPER NUMBER
2152	

MAIL DATE	DELIVERY MODE
10/11/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/659,942	SHAPIRO ET AL.	
	Examiner	Art Unit	
	Thomas J. Dailey	2152	

--.The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 July 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6 and 14-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 14-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 7-13 and 18-24 were canceled by the amendment filed on July 30, 2007.
2. Claims 1-6 and 14-17 are pending.

Response to Arguments

3. Applicant's arguments filed July 30, 2007 have been fully considered but they are not persuasive.

4. The applicant argues, with respect to the amended independent claims 1, 4-6, and 14, that the cited references (Parham (US Pat. 6,879,564) and Bertin (US Pat. 5,940,372)) fail to teach assigning as a zone weight the number of paths from the first network node to the second network node that include said fault zone, wherein the zone weight is determined from the path configuration of the network. Specifically, the applicant states the present invention teaches calculating the number of routing paths that go through the fault zone, stating this is independent of the network traffic.

5. The examiner disagrees. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., calculating the number of routing paths, thus making zone weight independent of network traffic) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification,

limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). By claiming "identifying a path" (claim 1, line 5) and "assigning as a zone weight the number of paths from the first network node to the second network node" (claim 1, lines 8-9), taking the broadest interpretation of the term "path" in a networked environment, one of ordinary skill in the art would still be able apply the combination of Bertin and Parham to the applicant's claimed invention, as they would not come to the conclusion that the zone weight, as recited in the claims, is independent of network traffic. Further elaboration is made to this rejection is the below 35 U.S.C. 103 rejections applied to these claims.

6. The applicant neither argued against nor amended to alleviate the 35 U.S.C. 112 2nd paragraph rejections directed to claims 5 and 6, see paragraph 9 of the Office Action dated May 1, 2007. Therefore, these rejections have been maintained.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-6 and 14-17 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. Claims 1, 4-6, and 14, recite the phrase, "efficient communication" (e.g. claim 1, lines 2 and 17). "Efficient communication" is a subjective concept and therefore cannot be given patentable weight which renders the claims indefinite.

10. Claims 5-6 are additionally rejected due to the ambiguousness of "the best path weight." (claim 5, line 20 and claim 6, line 22). The definition of "best" in this context is subjective and therefore the claim is rendered indefinite.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claims 1-6 and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parham et al (US Pat. 6,879, 564), hereafter "Parham," in view of Bertin et al (US Pat. 5,940,372), hereafter "Bertin."

13. As to claim 1, Parham discloses a processor-implemented method for enabling efficient communication between a first and a second node in a network by routing network traffic through fault zones in the network (Abstract), the method comprising:

identifying a path from a first network node to a second network node (Fig. 3c, the bold faced path (path) between the server with label 150 (first node) and the server with label 158 (second node));

identifying a set of fault zones through which the identified path passes (column 4, lines 54-58 and Fig. 3c);

for each fault zone in the set of fault zones, assigning a zone weight, wherein the zone weight is determined from the path configuration of the network (column 4, lines 54-58);

calculating a path weight for the identified path, wherein said path weight is equal to the sums of said zone weights for each fault zone included in the identified path (column 4, lines 54-67); and

selecting the identified path as the current path for network traffic from the first node to the second node (column 4, lines 54-67).

whereby efficient communication form the first node to the second node is enabled along the selected path (column 4, lines 54-67)

But, Parham does not disclose that the zone weight is the number of paths from the first network node to the second network node that include said fault zone. Parham discloses where the zone weight is related to cost but nothing is explicitly recited that cost is a function of the number of paths between the two nodes that includes the fault zone.

However, Bertin discloses zone weights based upon the number of established routing paths between two nodes, wherein the zone weight is determined from the path configuration of the network (column 6, lines 22-35). Specifically, Bertin teaches links (zones) are weighted according to how much reserved bandwidth and traffic they carry. From this teaching, the conclusion can be made that the weight of the links is clearly dependent on the number of paths, when giving "paths" the broadest reasonable interpretation. Therefore, reserved bandwidth and traffic from Bertin read on "paths", (i.e. the more traffic, the greater the number of logical data paths, and the more reserved bandwidth, the greater the number of reserved paths).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Parham and Bertin in order to use a weighted routing algorithm that takes into load balancing so as to avoid an uneven distribution of network traffic.

14. As to claim 4, it is rejected by the same rationale set forth in claim 1's rejection.

15. As to claim 5, Parham discloses a processor-implemented method for enabling efficient communication between a first and a second node in a subnet by routing network traffic through fault zones in the subnet (Abstract), the method comprising:

identifying multiple fault zones in the subnet, each fault zone comprising one or more components of the subnet (column 4, lines 54-67 and Fig. 3c where the links read on the fault zones and the graph reads on the subnet);

configuring a central subnet manager to manage routing between nodes in the subnet (Abstract);

identifying a set of paths from a first node having a first identifier to a second node having multiple identifiers, including a second identifier, wherein traffic is deliverable to the second node using any of the multiple identifiers (column 4, lines 54-67 and Fig. 3c, label 150 (first node) and label 158 (second node));

for each fault zone traversed by one or more of the paths, establishing a zone weight, wherein the zone weight is determined from the path configuration of the network (column 4, lines 54-67);

for each path in the set of paths, establishing a path weight from the sums of the zone weights for each fault zone traversed by said path (column 4, lines 54-67); and

for each of the multiple identifiers of the second node, selecting as the current path from the first identifier to said identifier, from said set of paths, the path having the best path weight (column 4, lines 54-67).

whereby efficient communication form the first node to the second node is enabled along the selected path (column 4, lines 54-67)

But, Parham does not disclose that the zone weight is based upon the number of paths from the first network node to the second network node that include said fault zone. Parham discloses where the zone weight is related to cost but nothing is explicitly recited that cost is a function of the number of paths between the two nodes that includes the fault zone.

However, Bertin discloses zone weights based upon the number of established routing paths between two nodes, wherein the zone weight is determined from the path configuration of the network (column 6, lines 22-35). Specifically, Bertin teaches links (zones) are weighted according to how much reserved bandwidth and traffic they carry. From this teaching, the conclusion can be made that the weight of the links is clearly dependent on the number of paths, when giving "paths" the broadest reasonable interpretation. Therefore, reserved bandwidth and traffic from Bertin read on "paths", (i.e. the more traffic, the greater the number of logical data paths, and the more reserved bandwidth, the greater the number of reserved paths).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Parham and Bertin in order to use a weighted routing algorithm that takes into load balancing so as to avoid an uneven distribution of network traffic.

16. As to claim 6 and 14, they are rejected by the same rationale set forth in claim 5's rejection.

17. As to claim 2, Parham and Bertin disclose the invention substantially with regard to the parent claim 1, and further disclose:

identifying a new path from the first network node to the second network node (Parham, column 4, lines 54-65);

assigning zone weights to each fault zone in the new path (Parham, Fig. 3c);

calculating a new path weight for the new path (Parham, column 4, lines 54-65); and

if the new path weight is lower than said path weight for the identified path, selecting the new path as the current path for network traffic from the first node to the second node (Parham, column 4, lines 54-65).

18. As to claim 3, Parham and Bertin disclose the invention substantially with regard to the parent claim 1, and further disclose:

the first network node is identified by a first identifier (Parham, column 4, lines 54-65 and Fig. 3c, label 150, will inherently have an identifier);

the second network node is identified by multiple identifiers, including a second identifier (Parham, column 4, lines 54-65 and Fig. 3c, label 158);

selecting the identified path as the current path for network traffic from the first node to the second node comprises selecting the identified path the current

path for network traffic from the first node to the second node, wherein the second node is identified by the second identifier (Parham, column 4, lines 54-65 and Fig. 3c, label 158); and

paths other than the identified path are selected as the current paths for network traffic from the first node to the second node, wherein the seoncd node is identified by multiple identifiers other than the second identifier (Parham, column 4, lines 54-65 and Fig. 3c).

19. As to claim 15, Parham and Bertin disclose the invention substantially with regard to the parent claim 14, and further disclose the client computing device further comprises: a memory configured to store path weights of current paths between multiple pairs of node identifiers (Parham, column 3, lines 40-47 and as the weights are used in calculations in column 4, lines 54-65, they will inherently be stored in this memory).

20. As to claim 16, Parham and Bertin disclose the invention substantially with regard to the parent claim 15, and further disclose the memory is further configured to store, in association with each of the current paths, zone weights for fault zones traversed by the current path (Parham, column 4, lines 54-65).

21. As to claim 17, Parham and Bertin disclose the invention substantially with regard to the parent claim 14, and further disclose the subnet manager is further

configured to disseminate routing information to a plurality of nodes in the subnet, said routing information including said current path from the first identifier to the second identifier (Parham, column 5, lines 1-8).

Conclusion

22. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

23. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas J. Dailey whose telephone number is 571-270-1246. The examiner can normally be reached on Monday thru Friday; 9:00am - 5:00pm.

25. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on 571-272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

26. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TJD
10/4/2007

BUNJOB JAROENCHONWANIT
SUPERVISORY PATENT EXAMINER 10/9/7